Wells G&H Site Woburn, MA

U.S. EPA | HAZARDOUS WASTE PROGRAM AT EPA NEW ENGLAND

THE SUPERFUND PROGRAM *protects human health and the environment by investigating and cleaning up often-abandoned hazardous waste sites and engaging communities throughout the process. Many of these sites are complex and need long-term cleanup actions. Those responsible for contamination are held liable for cleanup costs. EPA strives to return previously contaminated land and groundwater to productive use.*

VAPOR INTRUSION INVESTIGATION:

EPA is evaluating chemicals once used at industries at the Wells G&H Site which seeped into the groundwater. Although groundwater treatment systems installed as part of the EPA-approved remedy have removed chemicals from over 400 million gallons of ground water, some concentrations of these chemicals remain in the groundwater. These chemicals are known as volatile organic compounds (VOCs). VOCs can travel from groundwater into a gas and move through the tiny open spaces between soil particles. This "soil gas," as it is called, can gather under buildings and possibly enter buildings through cracks or holes present in a floor slab, a basement or crawl space (for example, where utility services enter a home). Once in a building, the colorless and often odorless gas may travel further to upper levels of the building, depending on its insulation and construction. The movement of VOCs from groundwater into soil gas and then into a building is referred to as vapor intrusion.

COMMUNITY MEETING:

The Environmental Protection Agency (EPA) will hold a public meeting at 7:00 p.m. on January 26, 2011 at Woburn City Hall to present recent groundwater sampling results; describe how EPA investigates potential instances of vapor intrusion; and identify next steps at the Wells G&H Superfund Site (Site).

The purpose of this fact sheet is to:

- Explain the potential mechanism for chemicals to move from groundwater into the air below or inside buildings (vapor intrusion);
- Present the results of shallow groundwater samples recently collected from monitoring wells installed in the Dewey and Olympia Avenues Neighborhood; and
- Identify the next steps for a vapor intrusion investigation.

HISTORICAL TESTING FOR VAPOR INTRUSION:

In 1989, EPA collected indoor air samples from 3 residences in the Dewey and Olympia Avenue Neighborhood. In 1991, EPA also collected indoor air samples from the nearby child day care facility. The results of those tests did not indicate a potential health threat.

Since that time, investigation techniques have evolved and improved. EPA believes an updated assessment of the potential for vapor intrusion is needed to reflect current conditions and improved investigation methods. This updated assessment for vapor intrusion is more commonly being applied to many historical superfund sites across the country in response to evolving standards for assessing this potential vapor pathway.

KEY CONTACTS:

JOSEPH F. LEMAY, P.E.
U.S. EPA Remedial Project Manager
(617) 918-1323
lemay.joe@epa.gov

DOUG GUTRO
U.S. EPA Public Affairs Coordinator
(617) 918-1021
gutro.doug@epa.gov

JOSEPH COYNE
Project Manager
MA Dept. of Environmental Protection
(617) 348-4066
joseph.coyne@state.ma.us

GENERAL INFO:

EPA NEW ENGLAND
5 Post Office Sq.,
Suite 100
Boston, MA 02109-3912

TOLL-FREE CUSTOMER SERVICE
1-888-EPA-7341

LEARN MORE AT:
www.epa.gov/region1/superfund/sites/wellsgh

EPA United States Environmental Protection Agency

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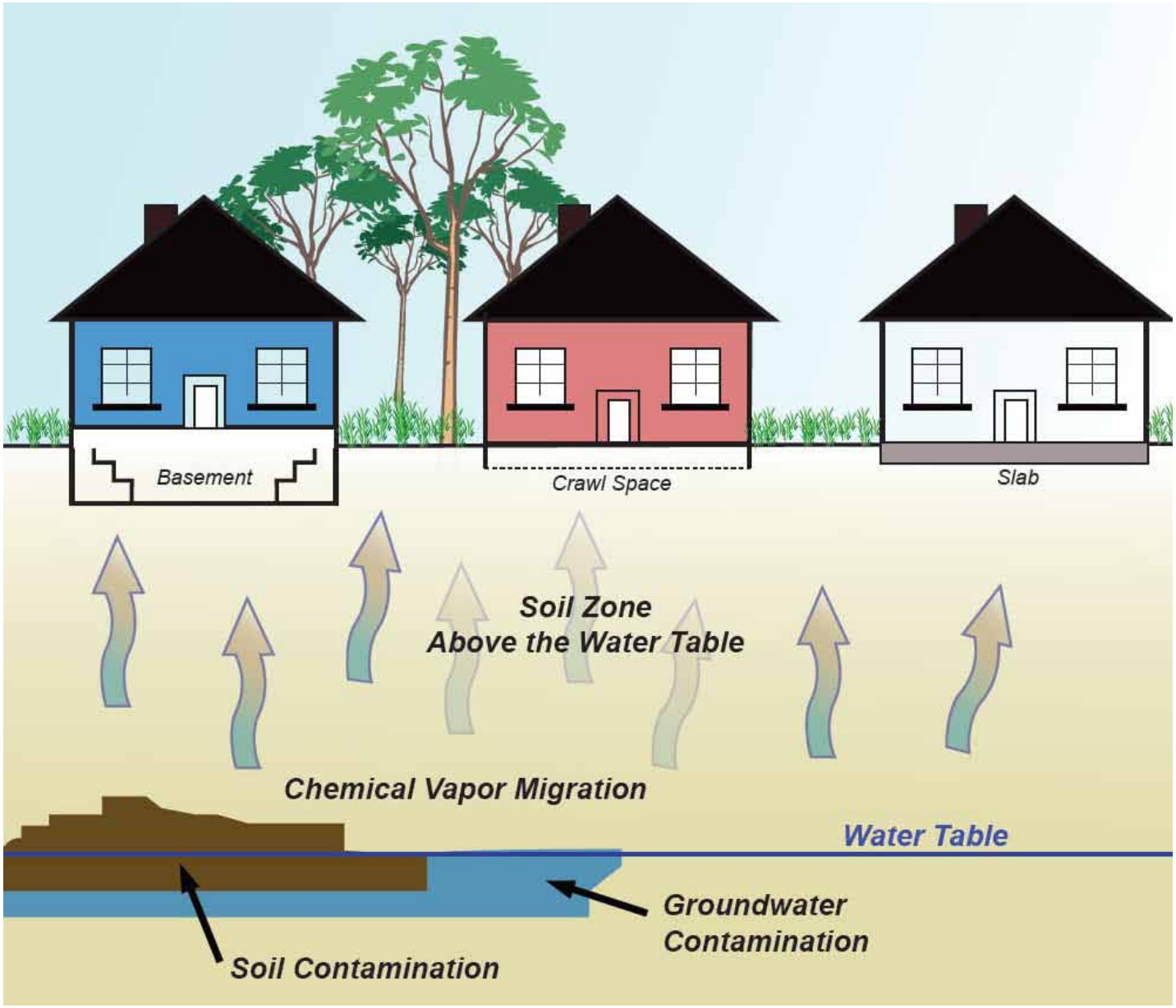
2010 VAPOR INTRUSION TESTING RESULTS:

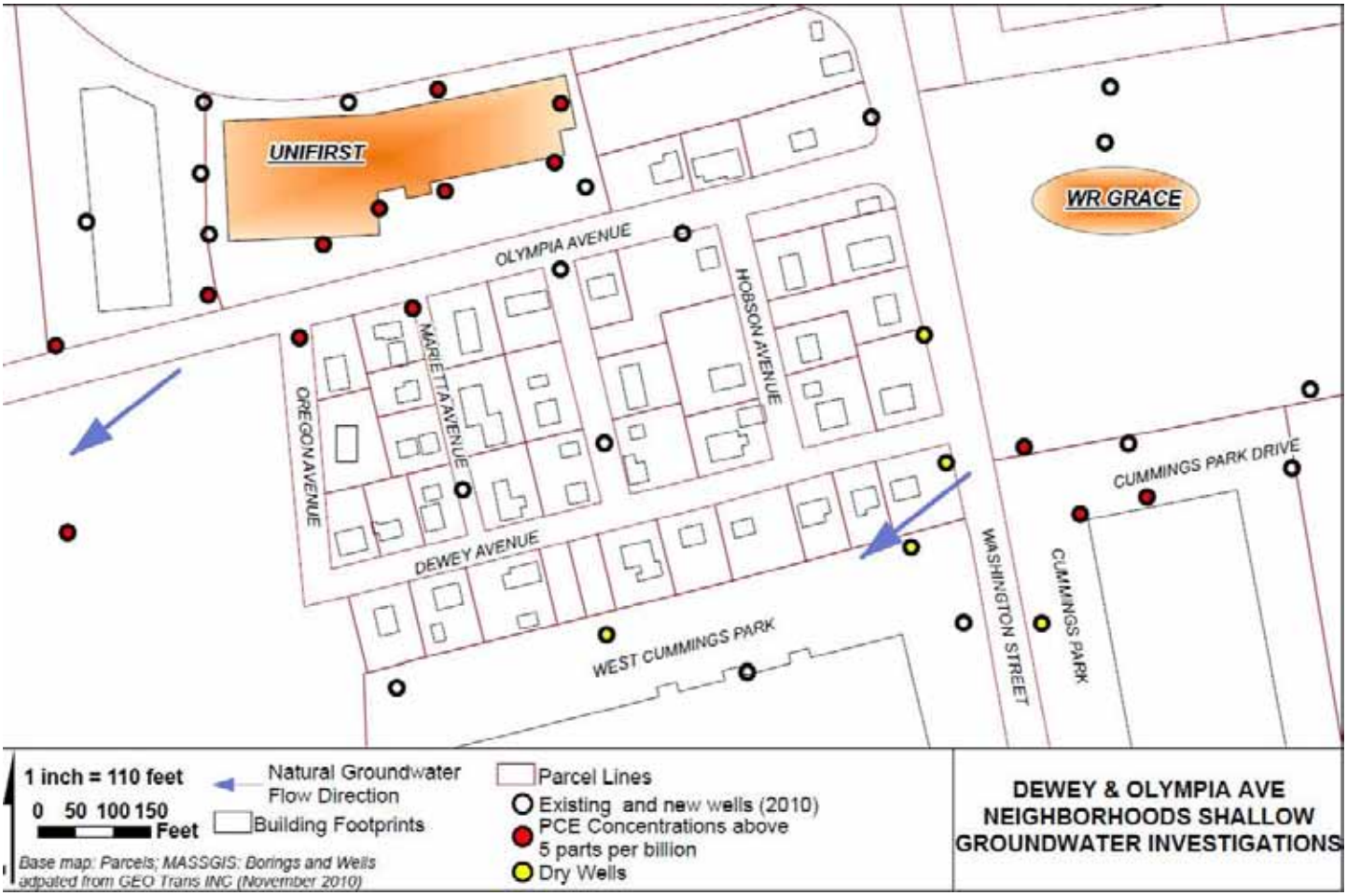
In Spring 2010, indoor air and sub-slab soil gas samples were collected in the building on the UniFirst property at 15 Olympia Avenue for assessing potential for vapor intrusion. Tetrachloroethylene, also known as perchloroethylene (PCE), was detected in both sub-slab and indoor air sample results. The sub-slab samples had the highest PCE concentrations under the eastern half of the building's foundation, while indoor air PCE concentrations were much lower. The comprehensive results of the sub-slab and indoor air sampling at the building on the UniFirst property are presented on EPA's web page at http://www.epa.gov/region1/superfund/sites/wellsgh.

2010 GROUNDWATER MONITORING RESULTS:

In April 2010, EPA announced a groundwater monitoring well installation program for the Dewey and Olympia Avenues neighborhood. The installation of shallow groundwater monitoring wells was an initial step in the process to investigate the potential for vapor intrusion. The well installation program included 14 new monitoring wells in the neighborhood and 2 new monitoring wells at the W.R. Grace property. During the summer, 38 groundwater monitoring wells were sampled for VOCs, including the 16 new wells and 22 existing wells. Well locations are illustrated in the figure on the next page.

PCE was detected in some monitoring wells located in the vicinity of the UniFirst and W.R. Grace properties. Samples from 14 of the 38 monitoring wells had PCE concentrations equal to or greater than 5 micrograms per liter (ug/L) or parts per billion (ppb) (see well locations with red highlights on figure), which is the maximum allowable concentration that EPA has established for public drinking water supplies. All but three shallow groundwater monitoring wells with





PCE concentrations equal to or great than 5 ppb were located on commercial properties. No groundwater samples were collected from 4 of the 38 monitoring wells because no water was present in those wells at the time of sampling (see well locations with yellow highlights). The comprehensive results of the shallow groundwater sampling are presented on EPA's web page at http://www.epa.gov/ne/superfund/sites/wellsgh.

PROPOSED INDOOR MONITORING FOR VAPOR INTRUSION:

EPA recommends additional indoor air sampling take place within a small number of buildings and dwellings near those shallow groundwater monitoring wells where PCE was measured at a concentration equal to or greater than 5 ppb. This recommendation is based on the results of recent groundwater tests and models that EPA uses as screening tools to determine where further investigation steps are prudent to check for movement of VOCs into buildings.

Specifically, EPA is proposing the collection of sub-slab (below the basement or bottom floor) soil gas and indoor air sampling at a limited number of locations during the winter months (e.g. February 2011) when heating systems are fully functional, and likely in the spring or summer 2011 to reflect seasonal differences in fresh air exchange. Samples will be collected in canisters over an 8-24 hour period. During the same time period, sub-slab soil gas samples will be collected beneath the building slab. Sub-slab sampling requires drilling a small (~1/2 inch) hole through the slab that is sealed with a sampling tube. These samples can often be taken in closets or utility rooms to avoid damaging flooring.

This sampling is precautionary in nature, but necessary to ensure there are no health hazards in the dwellings caused by the groundwater contaminants. UniFirst and W.R. Grace have agreed to conduct this important sampling and analysis with EPA's oversight. EPA will use these data from the indoor investigation to evaluate potential health risks, if any, at these buildings due to vapor intrusion. Where sampling is recommended, every effort will be made to minimize disruption to homes and businesses during these sampling activities. The cooperation of all property owners is necessary to fully assess the absence or presence of vapor intrusion into buildings.

NEXT STEPS:

Property Access: This month, EPA and UniFirst and/or W.R. Grace will contact a limited number of property owners near the monitoring wells where PCE concentrations in groundwater equal or exceed 5 ppb to request access to building basements/bottom floors.

Indoor Air Sampling: During the winter, sub-slab and indoor air samples will be collected from homes and businesses where access is sought.

Groundwater Sampling: If any additional shallow groundwater data is available from previously dry wells, EPA will consider this information prior to the sub-slab and indoor air sampling.

In spring 2011, sampling results will be evaluated, validated, and shared with property owners. The need for additional rounds of sampling will be made at that time. EPA does anticipate, however, that at least one more additional round of samples will be necessary in the Spring/Summer to fully evaluate vapor intrusion.

Contact information: If you have any questions regarding the on-going investigation or the current status of the Wells G&H Superfund, or you would like to be added to EPA's mailing list for the Wells G&H Superfund Site, please contact the EPA personnel on page 1 of this fact sheet.

EPA is working closely with the City of Woburn, including Mayor Scott Galvin's office and Alderman City Councilor Darlene Mercer-Bruen regarding this investigation and all matters regarding the Wells G&H site. If there are any questions for Mayor Galvin and Councilor Mercer-Bruen, they can be reached at telephone # 781.897.5901, email: mayor@cityofwoburn.com, and 781.937.3161, email: bruen-n-bruen@comcast.net, respectively.

EPA United States Environmental Protection Agency

5 Post Office Sq.
Suite 100
Boston, MA 02109-3912

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Important update